

## WHAT IS CLAIMED IS:

1. A method for saw-tooth removal of de-interlaced images using expanding window search for obtaining a target by image signals of three fields comprising steps of:

5        processing a first judgment procedure for determining a targeted image having a possible edge according to said image signals of said three fields;

          processing an expanding window search according to said targeted image having said possible edge;

10        processing a second judgment procedure according to the result of said expanding window search to distinguish a true edge from said targeted image having said possible edge in order to obtain a target.

2. The method according to Claim 1 wherein said first judgment procedure includes a determination criterion of  $(|C_{-1}-D_1|\geq\zeta_1)$  &  $(|D_{-1}-C_1|\geq\zeta_1)$  &  $(|C-D|\geq\zeta_1)$  &  $(|C-D_{-1}|\geq\zeta_1)$  &  $(|C-D_1|\geq\zeta_1)$  &  $(|D-C_{-1}|\geq\zeta_1)$  &  $(|D-C_1|\geq\zeta_1)$ , where the  $C, C_1, D, D_1$  are the adjacent points of said target and  $\zeta_1$  is a threshold value.

3. The method according to Claim 1 wherein a search range is set on said expanding window search, and according to said search range, a plurality of expanding windows are selected to determine said targeted images of said possible edge is able to have a right edge.

4. The method according to Claim 3 wherein according to said search range, said expanding windows are selected to determine said targeted images of said possible edge is able to have a left edge.

25        5. The method according to Claim 4 wherein said second procedure comprises steps of :

processing a right-edge mask product according to the maximal value of a right edge determination series; and

processing a left-edge mask product according to the maximal value of a left edge determination series.

- 5 6. The method according to Claim 5 wherein said right edge determination series is obtained according to said expanding windows.
7. The method according to Claim 5 wherein said left edge determination series is obtained according to said expanding windows.